



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/628,276      | 07/29/2003  | Sung-Il Kang         | 45432               | 4714             |

1609 7590 12/03/2004

ROYLANCE, ABRAMS, BERDO & GOODMAN, L.L.P.  
1300 19TH STREET, N.W.  
SUITE 600  
WASHINGTON,, DC 20036

EXAMINER


WILLIAMS, MARK A

ART UNIT PAPER NUMBER

3676

DATE MAILED: 12/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                                      |                                    |   |
|------------------------------|--------------------------------------|------------------------------------|---|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/628,276 | <b>Applicant(s)</b><br>KANG ET AL. |   |
|                              | <b>Examiner</b><br>Mark A. Williams  | <b>Art Unit</b><br>3676            |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on 9/17/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12, 16, 17 and 19-21 is/are rejected.
- 7) ☒ Claim(s) 13-15, 18 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 10, 11, 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Korean Patent 2002-035553. A hinge device that can be used for an information terminal or like device is disclosed. A main body and a sub-body to be opened away from or closed to the main body in the claimed manner is considered an inherent part of a foldable electronic device. The hinge device comprising a driving part (within 110) generating a driving force for rotating the sub-body; and a clutch part 130 for rotating the sub-body by the driving force of the driving part, whereby, when the sub-body rotates by an external force, the clutch part preventing rotating force of the sub-body from being transmitted to the driving part. The driving part comprises a driving motor 10 and a reduction module (engaging with gear 74) including a plurality of gear arrays for reducing revolutions

per minute of the driving motor (in the conventional manner as well known in the art) and increasing the driving force of the driving motor, thereby transmitting the reduced revolutions per minute and increased driving force. The hinge is a one step hinge device as claimed.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9 and 12-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 2002-035553 ('553) in view of Lin, US Patent 5,799,371. Patent '553 discloses most of the claimed limitations including a longitudinally reciprocating driving cam 90 on a rotating shaft 56, a driven cam 100 installed to receive elastic force so as from a coil spring 132 so that the driven cam tightly engages with the driving cam, wherein, if the driven cam rotates by external force, the cams are disengaged, thereby preventing a driving force of the driven cam from being transmitted to the driving cam. A reduction module located within housing 74 comprises a plurality of gear arrays 60, which reduce the

revolutions per minute of the driving motor 10, and at the same time, increase a driving force of the driving motor, thereby transmitting the reduced revolutions per minute and increased driving force. The housing is formed as claimed, and the gear arrangements includes driving plates with pins as conventional in the art. The housing 110 is divided into two section separated by a partition near 54, as claimed.

Patent '553 discloses the claimed invention except for teaching the cam members having a plurality of engaging teeth, as claimed. Lin teaches this concept (2, 3) for the purpose of retaining a hinged member in a series of angular positions. It would have been obvious at the time the invention was made for one skilled in the art to have modified '553 in this way, as discloses in Lin, for the purpose of gaining the added benefit of manually retaining the hinge member in a series of angular positions, relative to the driving cam.

4. Claim 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Korean Patent 2002-035553 ('553) in view of Lin. It would have been obvious to have modified the device in this way, since it has been held that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying

the claimed structural limitations. *Ex parte Masham*, 2 USPQ2d 1647 (1987).

Such a modification is not critical to the design and would have produced no unexpected results.

***Allowable Subject Matter***

5. Claims 13-15 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

6. Applicant's arguments filed 9/17/04 have been fully considered but they are not persuasive.

Applicant argues that the prior art of records fails to teach a state where a sub-body is folded to come into close contact with the main body, a display is partially exposed above one end of the sub-body. Such limitations are not consider patentable subject matter in that a main body and a sub-body are very broad terms, and since Patent '553 is directed to foldable devices, including electronic devices, such limitations certainly fall within the scope of the invention of '553. The scope

of invention of '553 is broad enough to include its application with key-pads and displays, as conventional in the art.

Applicant argues that the prior art of record fails to disclose a state that when the sub-body rotates by an external force, that the clutch part prevents rotating force of the sub-body from being transmitted to the driving part. It is the position of the examiner that the device of Patent '553 is essentially the same as applicant's claimed invention, and that such limitations would be an inherent feature of the device of '553 based on the resistance to rotary motion caused by the gear train and motor, and the compressibility of the spring 120.

Applicant argues that no evidence has been provided to support a motivation for combining '553 and Lin. As seen in column 1, lines 4-10, Lin provides for the advantage of use of a hinge device that permits retention of hinged parts relative to each other in one of a series of angular positions. Such structure is well established in the art of hinges. As stated in the above rejection, it is the position of the examiner that such a modification is obvious, since one may elect to modify '553 to provide the added benefit of manually retaining the hinge member in a series of angular positions, relative to the driving cam.

***Conclusion***

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Williams whose telephone number is (703) 305-3438. The examiner can normally be reached on Monday through Friday.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.



Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mark Williams  
11/28/04

